DOCUMENT RESUME

ED 438 363 UD 033 328

AUTHOR	Slavin, Robert E.; Madden, Nancy A.
TITLE	Success for All/Roots & Wings. Summary of Research on Achievement Outcomes.
INSTITUTION	Center for Research on the Education of Students Placed At Risk, Baltimore, MD.
SPONS AGENCY	Office of Educational Research and Improvement (ED), Washington, DC.
REPORT NO	CRESPAR-TR-41
PUB DATE	1999-12-00
NOTE	46p.; Funding was also provided by New American Schools; Carnegie Corporation of New York; Sandler Family Foundation; Stupski Family Foundation; Charles A. Dana Foundation; Pew Charitable Trusts; and Abell Foundation.
CONTRACT	R-117-40005
AVAILABLE FROM	For full text: http://www.csos.jhu.edu.
PUB TYPE	Reports - Research (143)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	*Academic Achievement; Bilingual Students; Elementary Education; Elementary School Students; English (Second Language); High Risk Students; *Mathematics Skills; Program Evaluation; *Reading Ability; *Science Process Skills; Social Studies; Special Education
IDENTIFIERS	*Roots and Wings Program; *Success for All Program

ABSTRACT

This report examines the current state of research on the achievement outcomes of Success For All, a program built around the idea that every child can and must succeed in the early grades, no matter what this takes. Success For All uses everything known about effective instruction for students at risk to direct all aspects of schooling and classroom organization toward helping prevent academic deficits from appearing at all; seeks and intensively intervenes with any deficits that appear; and provides a rich curriculum so students can build on their firm foundation in basic skills. Success for All is committed to seeing that all children become skilled, strategic, and enthusiastic readers while progressing through elementary school. This review describes research on Roots & Wings, a program that adds to Success For All in mathematics, science, and social studies. Evaluations of many Success For All schools in districts nationwide clearly show that the program increases student reading performance. In every district, Success For All students learned significantly more than matched control students. Significant effects were not seen on every measure at every grade level, but the consistent direction and magnitude of the effects show unequivocal benefits for Success For All students. (Contains 73 references.) (Author/SM)

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Summary of Research on Achievement Outcomes

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Summary of Research on Achievement Outcomes

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Success for All Foundation

Report No. 41

December 1999

Published by the Center for Research on the Education of Students Placed At Risk (CRESPAR), supported as a national research and development center by funds from the Office of Educational Research and Development (OERI), U.S. Department of Education (R-117-40005). Additional funding support for the development and evaluation of Success for All and Roots & Wings has been received from New American Schools, the Carnegie Corporation of New York, the Sandler Family Foundation, the Stupski Family Foundation, the Charles A. Dana Foundation, the Pew Charitable Trusts, and the Abell Foundation. However, any opinions expressed are those of the authors and do not necessarily represent the positions or policies of our funders. An on-line version of this report is available at our web site: www.csos.jhu.edu.

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THE CENTER

Every child has the capacity to succeed in school and in life. Yet far too many children, especially those from poor and minority families, are placed at risk by school practices that are based on a sorting paradigm in which some students receive high-expectations instruction while the rest are relegated to lower quality education and lower quality futures. The sorting perspective must be replaced by a "talent development" model that asserts that all children are capable of succeeding in a rich and demanding curriculum with appropriate assistance and support.

The mission of the Center for Research on the Education of Students Placed At Risk (CRESPAR) is to conduct the research, development, evaluation, and dissemination needed to transform schooling for students placed at risk. The work of the Center is guided by three central themes — ensuring the success of all students at key development points, building on students' personal and cultural assets, and scaling up effective programs — and conducted through research and development programs in the areas of early and elementary studies; middle and high school studies; school, family, and community partnerships; and systemic supports for school reform, as well as a program of institutional activities.

CRESPAR is organized as a partnership of Johns Hopkins University and Howard University, and supported by the National Institute on the Education of At-Risk Students (At-Risk Institute), one of five institutes created by the Educational Research, Development, Dissemination and Improvement Act of 1994 and located within the Office of Educational Research and Improvement (OERI) at the U.S. Department of Education. The At-Risk Institute supports a range of research and development activities designed to improve the education of students at risk of educational failure because of limited English proficiency, poverty, race, geographic location, or economic disadvantage.

ABSTRACT

The purpose of this review is to describe the current state of research on the achievement outcomes of Success for All, a program built around the idea that every child can and must succeed in the early grades, no matter what this takes.

Success for All uses everything we know about effective instruction for students at risk to direct all aspects of school and classroom organization toward the goal of preventing academic deficits from appearing in the first place; searches out and intensively intervenes with any deficits that do appear; and provides students with a rich and full curriculum to enable them to build on their firm foundation in basic skills. The commitment of Success for All is to do whatever it takes to see that all children become skilled, strategic, and enthusiastic readers as they progress through the elementary grades. In addition, this review describes research on Roots & Wings, a program that adds to Success for All programs in mathematics, science, and social studies.

The results of evaluations of dozens of Success for All schools in districts in all parts of the United States clearly show that the program increases student reading performance. In every district, Success for All students learned significantly more than matched control students. Significant effects were not seen on every measure at every grade level, but the consistent direction and magnitude of the effects show unequivocal benefits for Success for All students.

AUTHORS' NOTES

Portions of this report are adapted from Slavin, R.E., Madden, N.A., Dolan, L.J., Wasik, B.A., Ross, S., Smith, L., & Dianda, M. (1996a). Success for All: A summary of research. *Journal of Education for Students Placed At Risk, 1*(1), 41-76.

Success for All and Roots & Wings are currently developed and disseminated by the Success for All Foundation, a not-for-profit organization created in 1998. For further information on Success for All, including information on program adoption, contact:

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INTRODUCTION

Ms. Martin's kindergarten class has some of the brightest, happiest, and most optimistic kids you'll ever meet. Students in her class are glad to be in school, proud of their accomplishments, certain that they will succeed at whatever the school has to offer. Every one of them is a natural scientist, a storyteller, a creative thinker, a curious seeker of knowledge. Ms. Martin's class could be anywhere, in suburb or ghetto, small town or barrio, it doesn't matter. Kindergartners everywhere are just as bright, enthusiastic, and confident as her kids are.

Only a few years from now, many of these same children will have lost the spark they all started with. Some will have failed a grade. Some will be in special education. Some will be in long-term remediation, such as Title I or other programs. Some will be bored or anxious or unmotivated. Many will see school as a chore rather than a pleasure and will no longer expect to excel. In a very brief span of time, Ms. Martin's children will have defined themselves as successes or failures in school. All too often, only a few will still have a sense of excitement and positive self-expectations about learning. We cannot predict very well which of Ms. Martin's students will succeed and which will fail, but we can predict based on the past that if nothing changes, far too many will fail. This is especially true if Ms. Martin's kindergarten happens to be located in a high-poverty neighborhood, in which there are typically fewer resources to provide top-quality instruction to every child, fewer forms of rescue if children run into academic difficulties, and fewer supports for learning at home. Preventable failures occur in all schools, but in high-poverty schools failure can be endemic, so widespread that it makes it difficult to treat each child at risk of failure as a person of value in need of emergency assistance to get back on track. Instead, many such schools do their best to provide the greatest benefit to the greatest number of children possible, but have an unfortunately well-founded expectation that a certain percentage of students will fall by the wayside during the elementary years.

Any discussion of school reform should begin with Ms. Martin's kindergartners. The first goal of reform should be to ensure that every child, regardless of home background, home language, or learning style, achieves the success that he or she so confidently expected in kindergarten, that all children maintain their motivation, enthusiasm, and optimism because they are objectively succeeding at the school's tasks. Any reform that does less than this is hollow and self-defeating.

What does it mean to succeed in the early grades? The elementary school's definition of success, and therefore the parents' and children's definition as well, is overwhelmingly success in reading. Very few children who are reading adequately are retained, assigned to special education, or given long-term remedial services. Other subjects are important, of course, but reading and language arts form the core of what school success means in the early grades.

When a child fails to read well in the early grades, he or she begins a downward progression. In first grade, some children begin to notice that they are not reading adequately. They may fail first grade or be assigned to long-term remediation. As they proceed through the elementary grades, many students begin to see that they are failing at their full-time jobs. When this happens, things begin to unravel. Failing students begin to have poor motivation and poor self-expectations, which lead to continued poor achievement, in a declining spiral that leads ultimately to despair, delinquency, and dropout.

Remediating learning deficits after they are already well established is extremely difficult. Children who have already failed to learn to read, for example, are now anxious about reading, and doubt their ability to learn it. Their motivation to read may be low. They may ultimately learn to read but it will always be a chore, not a pleasure. Clearly, the time to provide additional help to children who are at risk is early, when children are still motivated and confident and when any learning deficits are relatively small and remediable. The most important goal in educational programming for students at risk of school failure is to try to make certain that we do not squander the greatest resource we have — the enthusiasm and positive self-expectations of young children themselves.

In practical terms, what this perspective implies is that schools — and especially Title I, special education, and other services for at-risk children — must be shifted from an emphasis on remediation to an emphasis on prevention and early intervention. Prevention means providing developmentally appropriate preschool and kindergarten programs so that students will enter first grade ready to succeed, and it means providing regular classroom teachers with effective instructional programs, curricula, and professional development to enable them to see that most students are successful the first time they are taught. Early intervention means that supplementary instructional services are provided early in students' schooling and that they are intensive enough to bring at-risk students quickly to a level at which they can profit from good quality classroom instruction.

The purpose of this review is to describe the current state of research on the achievement outcomes of Success for All, a program built around the idea that every child can and must succeed in the early grades, no matter what this takes. The idea behind Success for All is using everything we know about effective instruction for students at risk to direct all aspects of school and classroom organization toward the goal of preventing academic deficits from appearing in the first place; recognizing and intensively intervening with any deficits that do appear; and providing students with a rich and full curriculum to enable them to build on their firm foundation in basic skills. The commitment of Success for All is to do whatever it takes to see that every child becomes a skilled, strategic, and enthusiastic reader as they progress through the elementary grades. In addition, it describes research on Roots & Wings, a program that adds to Success for All programs in mathematics, science, and social studies (Slavin & Madden, in press).

Success for All

Program Description

Success for All exists as a separate program and also serves as the reading/writing/language arts component for Roots & Wings. Success for All is built around the assumption that every child can read. We mean this not as wishful thinking or as philosophical statement, but as a practical, attainable reality. In particular, every child without organic retardation can learn to read. Some children need more help than others and may need different approaches than those needed by others, but one way or another every child can become a successful reader. Success for All began in one Baltimore elementary school in 1987-1988, and since then has expanded each year to additional schools. As of Fall 1999, the program is in about 1500 schools in 450 districts in 47 states throughout the United States, and has been adapted for use in schools in Canada, Mexico, England,

Australia, and Israel. The U.S. districts range from some of the largest in the country, such as New York, Houston, Memphis, San Antonio, Cincinnati, Columbus, Chicago, Boston, Los Angeles, and Miami, to such middle-sized districts as Galveston, Texas; Rockford, Illinois; Lafayette, Louisiana; and Modesto, California, to small rural districts, including several on Indian reservations. Success for All reading curricula in Spanish have been developed and researched and are used in bilingual programs in many states. Almost all Success for All schools are high-poverty Title I schools, and the great majority are schoolwide projects. Otherwise, the schools vary widely. Under funding from New American Schools, a math program (MathWings) and a social studies/science program (WorldLab) were added to Success for All. Together, these elements constitute a program called Roots & Wings (Slavin, Madden, & Wasik, 1996; Slavin & Madden, in press).

Success for All and Roots & Wings have somewhat different components at different sites, depending on the school's needs and resources available to implement the program. However, there is a common set of elements characteristic of all Success for All and Roots & Wings schools. These are described below (adapted from Slavin, Madden, Dolan, & Wasik, 1996b).

Reading Program

Success for All and Roots & Wings use a reading curriculum based on research and effective practices in beginning reading (e.g., Adams, 1990), and on effective use of cooperative learning (Slavin, 1995; Stevens, Madden, Slavin, & Farnish, 1987).

Reading teachers at every grade level begin the reading time by reading children's literature to students and engaging them in a discussion of the story to enhance their understanding of the story, listening and speaking vocabulary, and knowledge of story structure. In kindergarten and first grade, the program emphasizes the development of oral language and pre-reading skills through the use of thematically-based units which incorporate areas such as language, art, and writing under a science or social studies topic. A component called Story Telling and Retelling (STaR) involves the students in listening to, retelling, and dramatizing children's literature. Big books as well as oral and written composing activities allow students to develop concepts of print as they also develop knowledge of story structure. There is also a strong emphasis on phonetic awareness activities which help develop auditory discrimination and support the development of reading readiness strategies.

Reading Roots is typically introduced in the second semester of kindergarten. This K-1 beginning reading program uses as its base a series of phonetically regular but meaningful and interesting minibooks, and emphasizes repeated oral reading to partners as well as to the teacher. The minibooks begin with a set of "shared stories," in which part of a story is written in small type (read by the teacher) and part is written in large type (read by the students). The student portion uses a phonetically controlled vocabulary. Taken together, the teacher and student portions create interesting, worthwhile stories. Over time, the teacher portion diminishes and the student portion lengthens, until students are reading the entire book. This scaffolding allows students to read interesting literature when they have only a few letter sounds.

Letters and letter sounds are introduced in an active, engaging set of activities that begins with oral language and moves into written symbols. Individual sounds are integrated into a context of words,

sentences, and stories. Instruction is provided in story structure, specific comprehension skills, metacognitive strategies for self-assessment and self-correction, and integration of reading and writing.

Spanish bilingual programs use an adaptation of *Reading Roots* called *Lee Conmigo* ("Read With Me"). *Lee Conmigo* uses the same instructional strategies as *Reading Roots*, but is built around its own Spanish books and lessons. Adaptations for second-language learners being taught in English are also widely used.

When students reach the second grade reading level, they use a program called *Reading Wings*, an adaptation of Cooperative Integrated Reading and Composition (CIRC) (Stevens, Madden, Slavin, & Farnish, 1987). *Reading Wings* uses cooperative learning activities built around story structure, prediction, summarization, vocabulary building, decoding practice, and story-related writing. Students engage in partner reading and structured discussion of stories or novels, and work in teams toward mastery of the vocabulary and content of the story. Story-related writing is also shared within teams. Cooperative learning both increases students' motivation and engages students in cognitive activities known to contribute to reading comprehension, such as elaboration, summarization, and rephrasing (see Slavin, 1995). Research on CIRC has found it to significantly increase students' reading comprehension and language skills (Stevens et al., 1987).

In addition to these story-related activities, teachers provide direct instruction in reading comprehension skills, and students practice these skills in their teams. Classroom libraries of trade books at students' reading levels are provided for each teacher, and students read books of their choice for homework for 20 minutes each night. Home readings are shared via presentations, summaries, puppet shows, and other formats twice a week during "book club" sessions.

Materials to support *Reading Wings* through the sixth grade (or beyond) exist in English and Spanish (called *Alas Para Leer)*. The English materials are built around children's literature and around the most widely used basal series and anthologies. *Alas Para Leer* materials have been developed for more than 100 children's novels and for most current basal series. Spanish materials are similarly built around Spanish-language novels and the basals.

Beginning in the second semester of program implementation, Success for All and Roots & Wings schools usually implement a writing/language arts program based primarily on cooperative learning principles (see Slavin, Madden, & Stevens, 1989/90).

Students in grades one to six are regrouped for reading. The students are assigned to heterogeneous, age-grouped classes most of the day, but during a regular 90-minute reading period they are regrouped by reading performance levels into reading classes of students all at the same level. For example, a 2-1 reading class might contain first, second, and third grade students all reading at the same level. The reading classes are smaller than homerooms because tutors and other certified staff (such as librarians or art teachers) teach reading during this common reading period. Regrouping allows teachers to teach the whole reading class without having to break the class into reading groups. This greatly reduces the time spent in seatwork and increases the time for direct instruction, eliminating workbooks, dittos, or other follow-up activities which are needed in classes that have multiple reading groups. The regrouping is a form of the Joplin Plan, which has been found to increase reading achievement in the elementary grades (Slavin, 1987).

Eight-Week Reading Assessments

At eight-week intervals, reading teachers assess student progress through the reading program. The results of the assessments are used to determine who is to receive tutoring, to change students' reading groups, to suggest other adaptations in students' programs, and to identify students who need other types of assistance, such as family interventions or screening for vision and hearing problems. The assessments are curriculum-based measures that include teacher observations and judgments as well as more formal measures of reading comprehension.

Reading Tutors

One of the most important elements of Success for All and Roots & Wings is the use of tutors to promote students' success in reading. One-to-one tutoring is the most effective form of instruction known (see Wasik & Slavin, 1993). The tutors are certified teachers with experience teaching Title I, special education, and/or primary reading. Often, well-qualified paraprofessionals also tutor children with less severe reading problems. In this case, a certified tutor monitors their work and assists with the diagnostic assessment and intervention strategies. Tutors work one-on-one with students who are having difficulties keeping up with their reading groups. The tutoring occurs in 20-minute sessions during times other than reading or math periods.

In general, tutors support students' success in the regular reading curriculum, rather than using separate materials. For example, the tutor will work with a student on the same story and concepts being read and taught in the regular reading class. However, tutors seek to identify learning problems and use different strategies to teach the same skills. They also teach metacognitive skills beyond those taught in the classroom program. Schools may have as many as six or more teachers serving as tutors depending on school size, need for tutoring, and other factors.

During daily 90-minute reading periods, certified tutors serve as additional reading teachers to reduce class size for reading. Reading teachers and tutors use brief forms to communicate about students' specific problems and needs, and meet at regular times to coordinate their approaches with individual children.

Initial decisions about reading group placement and the need for tutoring are based on informal reading inventories that the tutors give to each child. Subsequent reading group placements and tutoring assignments are made using the curriculum-based assessments described above. First graders receive priority for tutoring, on the assumption that the primary function of the tutors is to help all students be successful in reading the first time, before they fail and become remedial readers.

Preschool and Kindergarten

Most Success for All and Roots & Wings schools provide a half-day preschool and/or a full-day kindergarten for eligible students. The preschool and kindergarten programs focus on providing a balanced and developmentally appropriate learning experience for young children. The curriculum emphasizes the development and use of language. It provides a balance of academic readiness and non-academic music, art, and movement activities in a series of thematic units. Readiness activities include a program called Story Telling and Retelling (STaR) in which students retell stories read by the teachers. Pre-reading activities begin during the second semester of kindergarten.

Family Support Team

Parents are an essential part of the formula for success in Success for All and Roots & Wings. A Family Support Team works in each school, serving to make families feel comfortable in the school and become active supporters of their child's education as well as providing specific services. The Family Support Team consists of the Title I parent liaison, assistant principal (if any), counselor (if any), facilitator, and any other appropriate staff already present in the school or added to the school staff.

The Family Support Team first works toward establishing and maintaining good relations with parents and increasing parental involvement in the schools. Family Support Team members may complete "welcome" visits for new families. They organize many attractive programs in the school, such as parenting skills workshops. Most schools use a program called "Raising Readers" (or "Creando Lectores" in Spanish) in which parents are given strategies to use in reading with their own children. Family Support Teams also help teachers implement a social skills curriculum, "Getting Along Together," which emphasizes peaceful solutions to interpersonal problems.

The Family Support Team also intervenes to solve problems. For example, team members may contact parents whose children are frequently absent to see what resources can be provided to assist the family in getting their child to school. Family support staff, teachers, and parents work together to solve school behavior problems. Also, family support staff are called on to provide assistance when students seem to be working at less than their full potential because of problems at home. Families of students who are not receiving adequate sleep or nutrition, need glasses, are not attending school regularly, or are exhibiting serious behavior problems, may receive family-support assistance.

The Family Support Team is strongly integrated into the academic program of the school. It receives referrals from teachers and tutors regarding children who are not making adequate academic progress, and thereby constitutes an additional stage of intervention for students in need above and beyond that provided by the classroom teacher or tutor. The Family Support Team also encourages and trains the parents to fulfill numerous volunteer roles within the school, ranging from providing a listening ear to emerging readers to helping in the school cafeteria.

Program Facilitator

A program facilitator works at each school to oversee (with the principal) the operation of the Success for All and Roots & Wings models. The facilitator helps plan the program, helps the principal with scheduling, and visits classes and tutoring sessions frequently to help teachers and tutors with individual problems. He or she works directly with the teachers on implementation of the curriculum, classroom management, and other issues, helps teachers and tutors deal with any behavior problems or other special problems, and coordinates the activities of the Family Support Team with those of the instructional staff.

Teachers and Teacher Training

Teachers and tutors receive detailed manuals supplemented by three days of inservice training at the beginning of the school year. In Roots & Wings schools, this level of training continues over a three-year period as the main program elements are phased in.

Throughout the year, additional inservice presentations are made by the facilitators and other project staff on such topics as classroom management, instructional pace, and cooperative learning. Facilitators also organize many informal sessions to allow teachers to share problems and problem solutions, suggest changes, and discuss individual children. The staff development model used in Success for All and Roots & Wings emphasizes relatively brief initial training with extensive classroom follow-up, coaching, and group discussion.

Advisory Committee

An advisory committee, composed of the building principal, program facilitator, teacher representatives, parent representatives, and family support staff, meets regularly to review the progress of the program and to identify and solve any problems that arise. In most schools existing site-based management teams are adapted to fulfill this function. In addition, grade-level teams and the Family Support Team meet regularly to discuss common problems and solutions and to make decisions in their areas of responsibility.

Special Education

Every effort is made to deal with students' learning problems within the context of the regular classroom, as supplemented by tutors. Tutors evaluate students' strengths and weaknesses and develop strategies to teach in the most effective way. In some schools, special education teachers work as tutors and reading teachers with students identified as learning disabled as well as other students experiencing learning problems who are at risk for special education placement. One major goal of Success for All and Roots & Wings is to keep students with learning problems out of special education if at all possible, and to serve any students who do qualify for special education in a way that does not disrupt their regular classroom experience (see Slavin, 1996).

Roots & Wings

Program Description

Roots & Wings (Slavin & Madden, in press; Slavin, Madden, & Wasik, 1996), as noted earlier, is a comprehensive reform design for elementary schools that adds to Success for All innovative programs in mathematics, social studies, and science. Development of Roots & Wings was funded by New American Schools, a foundation supported mostly by large corporations.

MathWings

Roots & Wings schools begin by implementing all components of Success for All, described above. In the second year of implementation they typically begin to incorporate the additional major components. *MathWings* is the name of the mathematics program used in grades 1-5. It is a constructivist approach to mathematics based on NCTM standards, but designed to be practical and effective in schools serving many students placed at risk. MathWings makes extensive use of cooperative learning, games, discovery, creative problem solving, manipulatives, and calculators.

WorldLab

WorldLab is an integrated approach to social studies and science that engages students in simulations and group investigations. Students take on roles as various people in history, in different parts of the world, or in various occupations. For example, they work as engineers to design and test efficient vehicles, they form a state legislature to enact environmental legislation, they repeat Benjamin Franklin's experiments, and they solve problems of agriculture in Africa. In each activity students work in cooperative groups, do extensive writing, and use reading, mathematics, and fine arts skills learned in other parts of the program.

As of Fall 1999, approximately 150 schools have added either MathWings or WorldLab (or both) to their implementations of Success for All, making themselves into Roots & Wings schools.

RESEARCH ON SUCCESS FOR ALL AND ROOTS & WINGS

From the very beginning, there has been a strong focus in Success for All on research and evaluation. Longitudinal evaluations of Success for All were begun in its earliest sites, six schools in Baltimore and Philadelphia. Later, third-party evaluators at the University of Memphis (Steven Ross, Lana Smith, and their colleagues) added evaluations in Memphis; Houston, Texas; Charleston, South Carolina; Montgomery, Alabama; Ft. Wayne, Indiana; Caldwell, Idaho; Tucson, Arizona; Clover Park, Washington; Little Rock, Arkansas; and Clarke County, Georgia. Studies focusing on English language learners in California have been conducted in Modesto and Riverside by researchers at WestEd, a federally-funded regional educational laboratory. Each of these evaluations has compared Success for All schools to matched comparison schools using either traditional methods or alternative reform models on measures of reading performance, starting with cohorts in kindergarten or in first grade and continuing to follow these students as long as possible (details of the evaluation design appear below). Vagaries of funding and other local problems have ended some evaluations prematurely, but many have been able to follow Success for All schools for many years. As of this writing, we have data comparing matched SFA and traditional schools from schools in thirteen U.S. districts. Other studies have compared Success for All to a variety of alternative reform models, have compared full and partial implementations of SFA, and have made other comparisons.

Studies Comparing Success for All to Matched Control Groups

The largest number of studies has compared the achievement of students in Success for All schools to that of children in matched comparison schools using traditional methods, including locally-developed Title I reforms. Schools implementing the Reading Recovery tutoring model were included

as "traditional controls," because only a small proportion of students receive tutoring; however, in each case, special analyses compared children tutored in Success for All and those tutored in Reading Recovery (those comparisons are discussed in a later section). The only studies excluded are a few studies in which there were pretest differences between Success for All and control groups of more than 30% of a standard deviation (e.g., Wang & Ross, 1999a, b; Ross & Casey, 1998).

Table 1 summarizes demographic and other data about the schools involved in the experimental-control evaluations of Success for All.

A common evaluation design, with variations due to local circumstances, has been used in most Success for All evaluations carried out by researchers at Johns Hopkins University, the University of Memphis, and WestEd. Each Success for All school involved in a formal evaluation is matched with a control school that is similar in poverty level (percent of students qualifying for free lunch), historical achievement level, ethnicity, and other factors. Schools are also matched on district-administered standardized test scores given in kindergarten or on Peabody Picture Vocabulary Test (PPVT) scores given by the evaluators in the fall of kindergarten or first grade. The measures used in the evaluations were as follows:

- **Woodcock Reading Mastery Test.** Three Woodcock scales, Word Identification, Word Attack, and Passage Comprehension, were individually administered to students by trained testers. Word Identification assesses recognition of common sight words, Word Attack assesses phonetic synthesis skills, and Passage Comprehension assesses comprehension in context. Students in Spanish bilingual programs were given the Spanish versions of these scales.
- **Durrell Analysis of Reading Difficulty.** The Durrell Oral Reading scale was also individually administered to students in grades 1-3. It presents a series of graded reading passages which students read aloud, followed by comprehension questions.
- **Gray Oral Reading Test.** Comprehension and passage scores from the Gray Oral Reading Test were obtained from students in grades 4-5.

Analyses of covariance with pretests as covariates were used to compare raw scores in all evaluations, and separate analyses were conducted for students in general and, in most studies, for students in the lowest 25% of their grades.

The figures presented in this report summarize student performance in grade equivalents (adjusted for covariates) and effect size (proportion of a standard deviation separating the experimental and control groups), averaging across individual measures. Neither grade equivalents nor averaged scores were used in the analyses, but they are presented here as a useful summary.

Table 1
Characteristics of Success for All Schools in Experimental-Control Group Comparisons

District/School	Enrollment	% Free Lunch	Ethnicity	Date Began SFA	Data Collected	Comments
Baltimore, MD						
B1	500	83	B-96% W-4%	1987	88-94	First SFA school; had additional funds first 2 years.
B2	500	96	B-100%	1988	89-94	Had additional funds first 4 years.
B3	400	96	B-100%	1988	89-94	
B4	500	85	B-100%	1988	89-94	
B5	650	96	B-100%	1988	89-94	
Philadelphia, PA						
P1	620	96	A - 60% W- 20% B - 20%	1988	89-94	Large ESL program for Cambodian children.
P2	600	97	B - 100%	1991	92-93	
P3	570	96	B- 1 00%	1991	92-93	
P4	840	98	B - 100%	1991	93	
P5	700	98	L - 100%	1992	93-94	Study only involved students in Spanish bilingual program.
Charleston, SC						
CS1	500	40	B - 60% W- 40%	1990	91-92	
Memphis, TN						
MT1	350	90	B - 95% W - 5%	1990	91-94	Program implemented only in grades K-2.
MT2	530	90	B - 100%	1993	94	
MT3	290	86	B - 100%	1993	94	
MT4	370	90	B - 100%	1993	94	
Ft. Wayne, IN						
F1	396	80	B - 45 % W - 55%	1991	92-94	
					97-98	
F2	305	67	B - 50% W - 50%	1991	92-94	
					97-98	
F3	588	82	B - 66% W - 34%	1995	97-98	
Montgomery, AL						
MA1	450	95	B - 100%	1991	93-94	
MA2	460	97	B - 100%	1991	93-94	

Table 1 (cont'd)
Characteristics of Success for All Schools in Experimental-Control Group Comparisons

District/School	Enrollment	% Free Lunch	Ethnicity	Date Began SFA	Data Collected	Comments
Caldwell, ID						
C11	400	20	W - 80% L - 20%	1991	93-94	Study compared two SFA schools to Reading Recovery school.
Modesto, CA						
MC1	640	70	W - 54% L - 25% A - 17% B - 4%	1992	94	Large ESL program for students speaking 17 languages.
MC2	560	98	L - 66% W - 24% A - 10%	1992	94	Large Spanish bilingual program.
Riverside, CA						
R1	930	73	L - 54% W - 33% B - 10% A - 3%	1992	94	Large Spanish bilingual and ESL programs. Year-round school.
Tucson, AZ						
T1	484	82	L - 54% W - 34% B - 69% A - 5%	1995	95-96	Compared to locally-developed schoolwide projects
T2	592	43	W - 73% L - 23% B - 1% A - 1%	1995	95-96	Compared to locally-developed schoolwide projects and Reading Recovery
Little Rock, AR						
LR1	302	73	B - 80% W - 20%	1997	98-99	
LR2	262	79	B - 95% L - 5%	1997	98-99	
Clarke County, GA						
CL1	420	70	B - 80% W - 20%	1995	97	
CL2	488	72	B - 78% W - 22%	1995	97	

Note: SFA = Success for All, ESL = English as a Second Language, B = African American, L = Latino, A = Asian American, W = White

Each of the evaluations summarized in this report follows children who began in Success for All or Roots & Wings in first grade or earlier, in comparison to children who had attended the control school over the same period. Students who start in the program after first grade are not considered to have received the full treatment (although they are of course served within the schools).

Results for all experimental-control comparisons in all evaluation years are averaged and summarized in Figure 1 using a method called multi-site replicated experiment (Slavin et al., 1996a,b; Slavin & Madden, 1993).

For more details on methods and findings, see Slavin et al. (1996a,b) and the full site reports.

Reading Outcomes

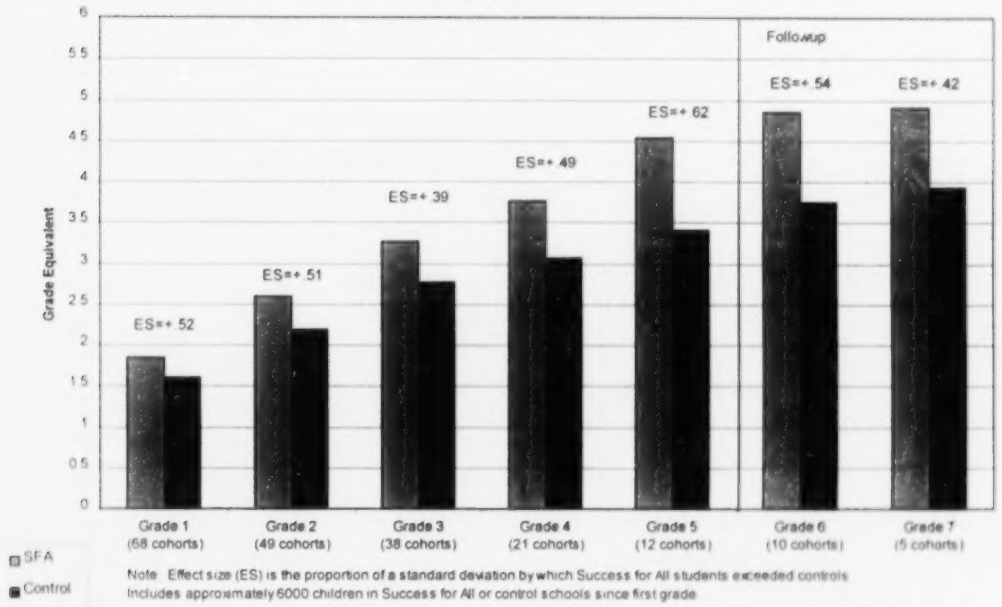
The results of the multi-site replicated experiment evaluating Success for All are summarized in Figure 1 for each grade level, 1-5, and for follow-up measures into grades 6 and 7. The analyses compare cohort means for experimental and control schools. A cohort is all students at a given grade level in a given year. For example, the Grade 1 graph compares 68 experimental to 68 control cohorts, with cohort (50-150 students) as the unit of analysis. In other words, each bar is a mean of scores from more than 6000 students. Grade equivalents are based on the means, and are only presented for their informational value. No analyses were done using grade equivalents.

Statistically significant (p=.05 or better) positive effects of Success for All (compared to controls) were found on every measure at every grade level, 1-5, using the cohort as the unit of analysis. For students in general, effect sizes averaged around a half standard deviation at all grade levels. Effects were somewhat higher than this for the Woodcock Word Attack scale in first and second grades, but in grades 3-5 effect sizes (ES) were more or less equivalent on all aspects of reading. Consistently, effect sizes for students in the lowest 25% of their grades were particularly positive, ranging from ES=+1.03 in first grade to ES=+1.68 in fourth grade. Again, cohort-level analyses found statistically significant differences favoring low achievers in Success for All on every measure at every grade level. A followup study of Baltimore schools found that positive program effects continued into grade 6 (ES=+0.54) and grade 7 (ES=+0.42), when students were in middle schools.

Quality and Completeness of Implementation

Not surprisingly, effects of Success for All are strongly related to the quality and completeness of implementation. In a large study in Houston, Nunnery, Slavin, Ross, Smith, Hunter, and Stubbs (in press) found that schools implementing all program components obtained better results (compared to controls) than did schools implementing the program to a moderate or minimal degree.

Figure 1
Comparison of Success for All and Control Schools in Mean Reading Grade Equivalents and Effect Sizes 1988-1999



Note: Effect size (ES) is the proportion of a standard deviation by which Success for All students exceeded controls. Includes approximately 6000 children in Success for All or control schools since first grade.

In this study, 46 school staffs were allowed to select the level of implementation they wanted to achieve. Some adopted the full model, as ordinarily required elsewhere; some adopted a partial model; and some adopted only the reading program, with few if any tutors, and half-time facilitators or no facilitators. Many of the schools used the Spanish bilingual form of SFA and were assessed in Spanish.

Figures 2 and 3 summarize the results. The figures show effect sizes comparing SFA to control schools on individually administered measures. On the English measure (Figure 2), effect sizes were very positive for the schools using the full program (ES=+0.47), less positive for those with a medium degree of implementation (ES=+0.31), but for those implementing the fewest program elements, effect sizes were slightly negative (ES=-0.13), indicating that the control groups achieved somewhat better scores. Among schools teaching in Spanish, there were too few certified teacher-tutors for any school to qualify as a high implementer (due to a shortage of teachers). However, medium implementers scored very well (ES=+.31), while low implementers scored less well (ES=+.19) (see Figure 3).

Figure 2
Houston Independent School District
1996 First Grade Effect Sizes by
Implementation Level-English

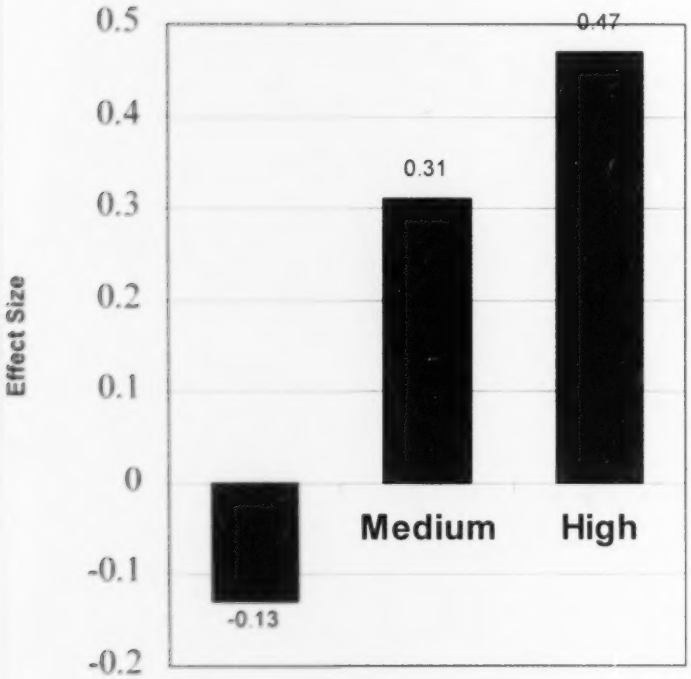
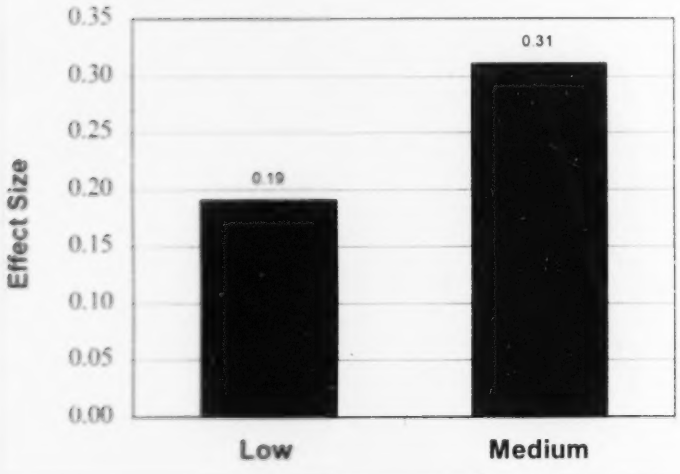


Figure 3
Houston Independent School District
1996 First Grade Effect Sizes by
Implementation Level-Spanish



A Memphis study (Ross, Smith, Lewis, & Nunnery, 1996; Ross, Smith, & Nunnery, 1998) compared the achievement of eight Success for All schools to that of four schools using other restructuring designs, matched on socioeconomic status and PPVT scores. Each pair of SFA schools had one school rated by observers as a high implementer, and one rated as a low implementer. In the 1996 cohort, first grade results depended entirely on implementation quality. Averaging across the four Woodcock and Durrell scales, every comparison showed that high-implementation SFA schools scored higher than their comparison schools, while low-implementation SFA schools scored lower (Ross et al., 1996). However, by second grade, Success for All schools exceeded comparison schools, on average, and there was less of a clear relationship with the original implementation ratings, perhaps because implementation quality changed over the two-year period. Similarly, the 1997 first-grade cohort did not show a clear pattern with respect to quality of implementation.

A Miami study (Urdegar, 1998) evaluated Success for All, two integrated learning systems computer programs (CCC and Jostens), and Reading Mastery, on the Stanford Achievement Test's Reading Comprehension scale. None of the programs was associated with higher achievement gains than matched controls. However, program implementation was very poor in the Success for All schools, particularly in that there were few or no tutors in most schools. Also, a pretest, given eight months before the posttest, was used as a covariate, even though the programs had been used for several years in most schools. The pretest is likely to reflect some or all of the program's impact over time, making the analysis of covariance difficult to interpret.

An early study by a separate team of Johns Hopkins researchers also found mixed outcomes in a study with serious implementation problems. This study, in Charleston, South Carolina, compared one school to a matched control school. However, the researchers failed to obtain the required 80% vote in favor of the program, implementation was very poor, and Hurricane Hugo ripped the roof off of the school, closing it for many weeks and disrupting it for many more. Despite this, most kindergarten and first grade measures favored Success for All, and retentions in grade were significantly diminished. However, second and third grade measures did not favor the Success for All school (Jones, Gottfredson, & Gottfredson, 1997).

Cooper, Slavin, and Madden (1998), in an interview study, found that high-quality implementations of Success for All depended on many factors, including district and principal support, participation in national and local networks, adequacy of resources, and genuine buy-in at the outset on the part of all teachers.

Effects on District-Administered Standardized Tests

The formal evaluations of Success for All have relied on individually-administered assessments of reading. The Woodcock and Durrell scales used in these assessments are far more accurate than district-administered tests, and are much more sensitive to real reading gains. They allow testers to hear children actually reading material of increasing difficulty and responding to questions about what

they have read. The Woodcock and Durrell scales are themselves nationally standardized tests, and produce norms (e.g., percentiles, NCEs, and grade equivalents) just like any other standardized measure.

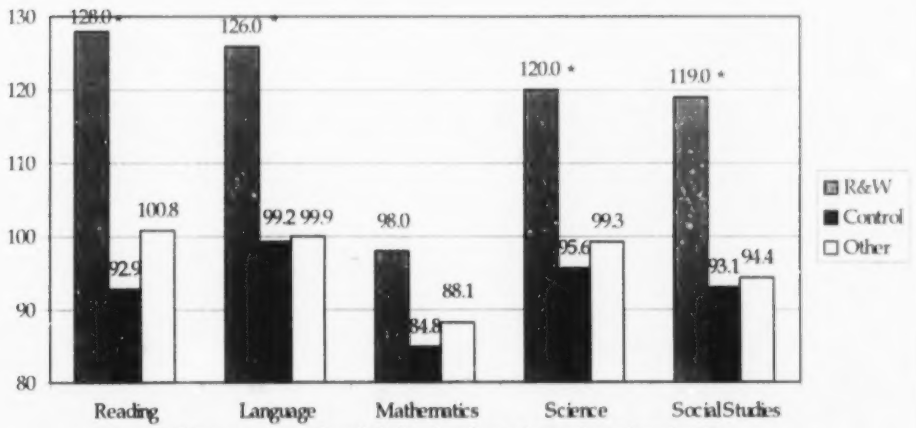
However, educators often want to know the effects of innovative programs on the kinds of group-administered standardized tests they are usually held accountable for. To obtain this information, researchers have often analyzed standardized or state criterion-referenced test data comparing students in experimental and control schools. The following sections briefly summarize findings from these types of evaluations.

Memphis, Tennessee

One of the most important independent evaluations of Success for All/Roots & Wings is a study carried out by researchers at the University of Tennessee-Knoxville for the Memphis City Schools (Ross, Sanders, & Wright, 1998). William Sanders, the architect of the Tennessee Value-Added Assessment System (TVAAS), carried out the analysis. The TVAAS gives each school an expected gain, independent of school poverty levels, and compares it to actual scores on the Tennessee Comprehensive Assessment Program (TCAP). TVAAS scores above 100 indicate gains in excess of expectations; those below 100 indicate the opposite. Sanders compared TVAAS scores in eight Memphis Success for All schools to those in (a) matched comparison schools, and (b) all Memphis schools.

Figure 4 summarizes the results for all subjects assessed. At pretest, the Success for All schools were lower than both comparison groups on TVAAS. However, after two years of implementation, they performed significantly better than comparison schools in reading, language, science, and social studies. While some schools had implemented aspects of WorldLab, none had implemented MathWings; despite this, even math scores nonsignificantly favored the Success for All schools.

Figure 4
Percent of Expected Gain on TVAAS for Roots & Wings, Control, and Other Memphis Schools, Grades 2-5, 1997



* Roots & Wings scores significantly higher than those of controls or others ($p<.05$).
Tennessee Value-Added Assessment System (TVAAS) scores analyzed by William Sanders for the Memphis City Schools. See Ross, Sanders, & Wright, 1998.

A third-year evaluation found that Success for All schools averaged the greatest gains and highest levels on the TVAAS of six restructuring designs (Co-nect, Accelerated Schools, Audrey Cohen College, ATLAS, and Expeditionary Learning), as well as exceeding controls, averaging across all subjects and averaging data from the second and third implementation years (Ross, Wang, Sanders, Wright, & Stringfield, 1999).

The importance of the Memphis study lies in several directions. First, it is a completely independent evaluation that involved state assessment scores of the kind used in most state accountability systems. Second, it shows carryover effects of a program focused on reading, writing, and language arts into science and social studies outcomes.

An earlier study of Success for All schools in Memphis also showed positive effects on the TCAP. This was a longitudinal study of three Success for All and three control schools carried out by Ross, Smith, and Casey (1995). On average, Success for All schools exceeded controls on TCAP reading by an effect size of +0.38 in first grade and +0.45 in second grade.

Houston, Texas

Since 1993, the state of Texas has administered the Texas Assessment of Academic Success, or TAAS, assessing reading in grades 3, 4, and 5 and writing in grade 4. Recently, Texas put its TAAS scores for every school every year on the Internet, making it possible to compare Success for All schools anywhere in the state to gains in the state as a whole. Two analyses of this kind have been carried out, one in Houston and one in San Antonio.

In Houston, Success for All was begun on a large scale in 1995, in two forms. One set of schools (n=46) adopted Success for All as part of a study (Nunnery et al., in press) in which they were allowed to implement either the full program, the reading program only, or something in between. As noted earlier, the full-implementation schools obtained excellent outcomes on individually-administered tests given to subsamples, in comparison to control schools, while moderate-implementation schools obtained less positive outcomes and low-implementation schools did not differ from controls (recall Figures 2 and 3). After the first two years, the Houston Independent School District (HISD) insisted that all SFA schools take on the full model, but because of the incomplete start made by most schools, quality of implementation in these schools never reached the levels typical elsewhere.

In contrast, a set of schools in Houston is implementing Success for All as part of a larger program called Project GRAD (Ketelsen, 1994; McAdoo, 1998). Project GRAD, developed and led by a former CEO of Tenneco, works with entire feeder patterns of schools leading into a high school. At the elementary level, Project GRAD uses all Success for All elements, but adds a math program called Move-It Math and a school climate program called Consistency Management/Cooperative Discipline (Freiberg, Stein, & Huong, 1995). Most importantly, Project GRAD schools receive the resources, assistance, and monitoring needed to fully implement Success for All, and, in most cases, implementation quality in Project GRAD schools is at or above usual levels for urban Success for All schools.

Figure 5 shows TAAS gains for Project GRAD schools, other HISD Success for All schools, and the state of Texas. As the figure shows, Project GRAD schools (n=8) gained significantly more than HISD Success for All schools (n=46), which in turn gained significantly more than other Texas

schools, in reading as well as writing at all grade levels. This result provides one more indication of the importance of high-quality implementation, as well as supporting the broader approach taken by Project GRAD.

Figure 5
Texas Assessment of Academic Skills
Gains in Percent Meeting Minimum Expectations from Spring 1994 to Spring 1998
Houston Success for All Schools (N=46) vs. Project Grad Success for All Schools (N=8)
Grades 3-5

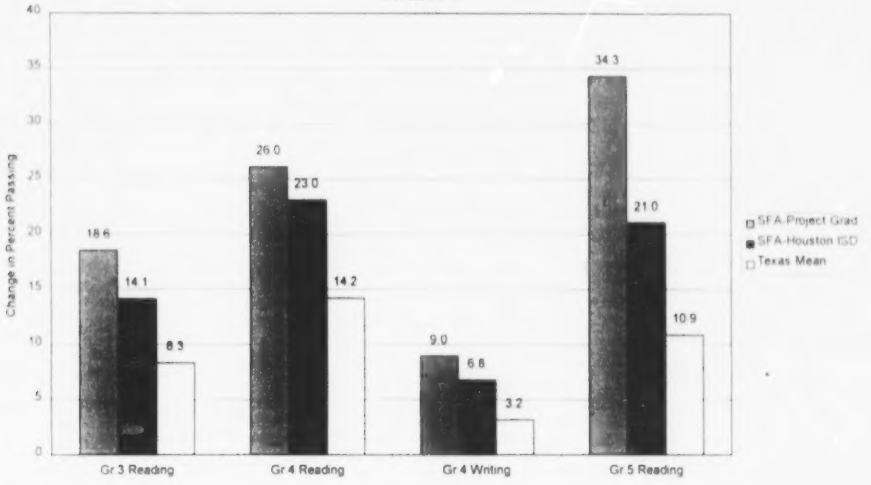
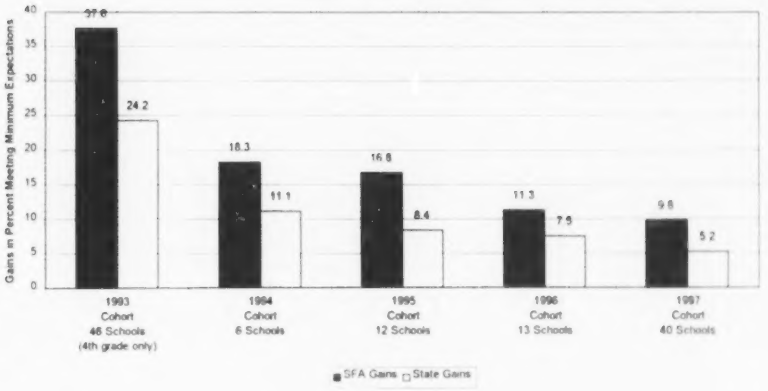


Figure 6
Gains From Preimplementation Year to 1998
Success for All vs. Texas Means
Texas Assessment of Academic Success
Reading, Grades 3, 4, 5



State of Texas

TAAS reading data from all 117 schools that started Success for All in Texas in 1993-1997 are summarized in Figure 6. TAAS gains from pretest to 1998 were larger for Success for All schools than for the state in every group of schools. All of the differences in school mean gains are statistically significant, $p<.05$.

Baltimore, Maryland

A longitudinal study in Baltimore from 1987-1993 collected CTBS scores on the original five Success for All and control schools. On average, Success for All schools exceeded control schools at every grade level. The differences were statistically and educationally significant. By fifth grade, Success for All students were performing 75% of a grade equivalent ahead of controls (ES=+0.45) on CTBS Total Reading scores (see Slavin, Madden, Dolan, Wasik, Ross, & Smith, 1994).

Flint, Michigan

Two schools in Flint, Michigan began implementation of Success for All in 1992. The percentage of students passing the Michigan Educational Assessment Program (MEAP) in reading at fourth grade increased dramatically. Homedale Elementary had a pass rate of 2% in 1992, placing it last among the district's 32 elementary schools. In 1995, 48.6% of students passed, placing it first in the district. Merrill Elementary, 27th in the district in 1992 with only 9.5% of students passing, was 12th in 1995 with 22% passing. Over the same period, the average for all Flint elementary schools increased only from 18.3% passing to 19.3%.

Ft. Wayne, Indiana

An evaluation in two schools in Ft. Wayne, Indiana (Ross, Smith, & Casey, 1997) found positive effects of Success for All on the reading comprehension scale of the ISTEP, Indiana's norm-referenced achievement test. In first grade, the effect size was +0.49 for students in general and +1.13 for the lowest-performing 25%. In second grade, effect sizes were +0.64, and in third grade, ES=+.13.

International Evaluations of Success for All Adaptations

Several studies have assessed the effects of adaptations of Success for All in countries outside of the United States. These adaptations have ranged from relatively minor adjustments to accommodate political and funding requirements in Canada and England to more significant adaptations in Mexico, Australia, and Israel.

The Canadian study (Chambers, Abrami, & Morrison, in press) involved one school in Montreal, which was compared to a matched control school on individually-administered reading measures. Results indicated significantly better reading performance in the Success for All school than in the control school, both for special needs students (a large proportion of the SFA students) and for other students. Similarly, a study of five SFA schools in Nottingham, England found that Success for All

students gained more in reading than did students in a previous cohort, before the program was introduced (Harris, Hopkins, Youngman, & Wordsworth, in press).

A school in Juarez, Mexico, across the border from El Paso, Texas, implemented the Spanish adaptation of Success for All, Éxito Para Todos (Calderón, in press). This study showed substantial pre-to-posttest gains for the experimental schools, but there was no control group.

Because of language and cultural differences, the most extreme adaptation of Success for All was made to use the program in Israel with both Hebrew-speaking children in Jewish schools and Arabic-speaking children in Israeli Arab schools, all in or near the northern city of Acre. The implementation involved community interventions focusing on parent involvement, integrated services, and other aspects in addition to the adapted Success for All model. In comparison to control groups, Success for All first graders performed at significantly higher levels on tests of reading and writing (Hertz-Lazarowitz, in press).

Finally, Australian researchers created a substantially simplified adaptation of Success for All, which they called SWELL. SWELL uses instructional procedures much like those used in Success for All, but uses books adapted for the Australian context. Only the early grades are involved, schools do not have full-time facilitators or family support programs, and they may or may not provide any tutoring. Two studies of SWELL found positive effects of the program on reading performance in comparison to control groups and to Reading Recovery schools (Center, Freeman, & Robertson, in press; Center, Freeman, Mok, & Robertson, 1997).

The international studies of programs adapted from Success for All have importance in themselves, of course, but also indicate that the principles on which Success for All are based transfer to other languages, cultures, and political systems. In addition, they provide third-party evaluations of Success for All in diverse contexts, strengthening the research base for Success for All principles and practices.

Roots & Wings

A study of Roots & Wings (Slavin & Madden, in press) was carried out in four pilot schools in rural southern Maryland and one school in San Antonio, Texas. In both, evaluations compared students' gains on state assessments to those for their respective states as a whole.

In the Maryland evaluation, the Roots & Wings schools served populations that were significantly more disadvantaged than state averages. In the Maryland study, they averaged 48% free and reduced-price lunch eligibility, compared to 30% for the state; 21% of Roots & Wings students were Title I eligible, in comparison to 7% for the state. The assessment tracked growth over time on the Maryland School Performance Assessment Program (MSPAP), compared to growth in the state as a whole. The MSPAP is a performance measure on which students are asked to solve complex problems, set up experiments, write in various genres, and read extended text. It uses matrix sampling, which means that different students take different forms of the test.

In both third and fifth grade assessments in all subjects tested (reading, language, writing, math, science, and social studies), Roots & Wings students showed substantial growth. As shown in Figures 7 and 8, by the third implementation year, when all program components were in operation, the state of Maryland gained in average performance on the MSPAP, but the proportion of Roots & Wings students achieving at satisfactory or excellent increased by more than twice the state's rate on every measure at both grade levels.

After the 1995-96 school year, when funding for the pilot was reduced significantly, implementation dropped off substantially in the Maryland pilot schools, and MSPAP scores correspondingly failed to increase further, and in some cases slightly declined. Still, two years after the end of full implementation, the total gains made by the Roots & Wings schools remained higher than those for the state as a whole in every subject at both grade levels except for fifth grade language.

The first evaluation of Roots & Wings outside of Maryland took place at Lackland City Elementary School in San Antonio, Texas (see Slavin & Madden, in press). This school serves a very impoverished population, with 93% of its students qualifying for free lunch in 1998, up from 88% in 1994. Most of its students (79%) are Hispanic; 16% are white, and 5% African American.

Lackland City adopted Success for All in 1994-95, and then added MathWings for grades 3-5 in 1995-96 and WorldLab and Primary MathWings in 1996-97. In contrast to St. Mary's County, implementation of Roots & Wings at Lackland City continues to be strong.

Like Maryland, Texas uses a high-stakes performance measure, the Texas Assessment of Academic Skills, or TAAS. Scores on the TAAS for Lackland City were compared to those for the state as a whole for grades 3-5 reading and math and for grade 4 writing. Scores are the percentages of students scoring above minimum standards.

Figure 7
Maryland School Performance Assessment Program
Gains in Percent Scoring Satisfactory or Better
St. Mary's County Roots & Wings Schools vs. State Means
Grade 3, 1993-1996 (full implementation)

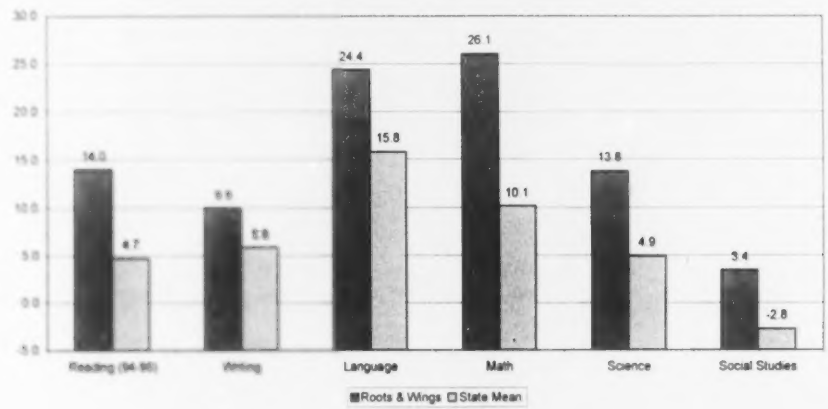


Figure 9 summarizes TAAS gains from 1994 (pretest) to 1998. As in Maryland, the Roots & Wings schools gained substantially more than the state as a whole on each scale, with the largest absolute gains in math, but the largest relative gains in reading and writing.

Figure 8
Maryland School Performance Assessment Program
Gains in Percent Scoring Satisfactory or Better
St. Mary's County Roots & Wings Schools vs. State Means
Grade 5, 1993-1996 (Full Implementation)

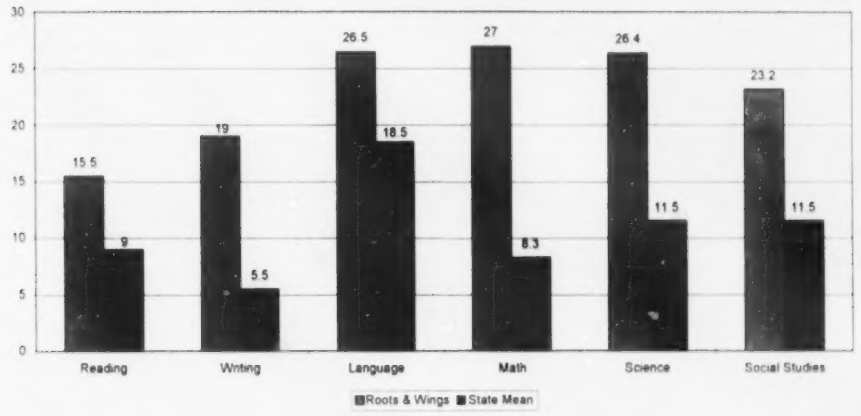
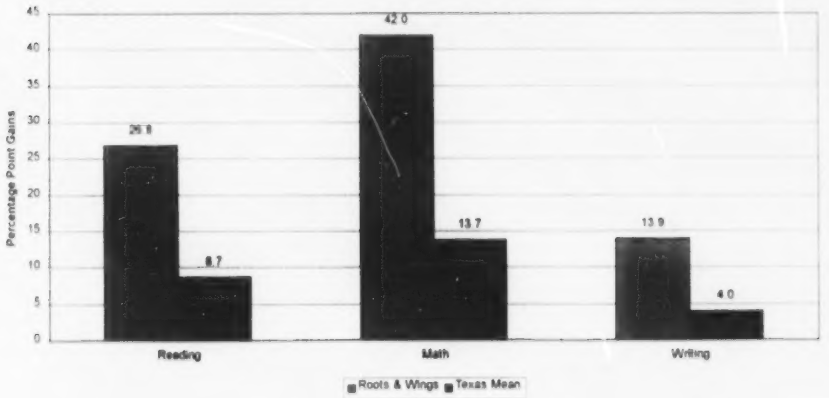


Figure 9
Texas Assessment of Academic Skills
Gains in Percent Meeting Minimum Expectations
Lackland City Elementary School vs. State of Texas
Grades 3-5, 1995-1998



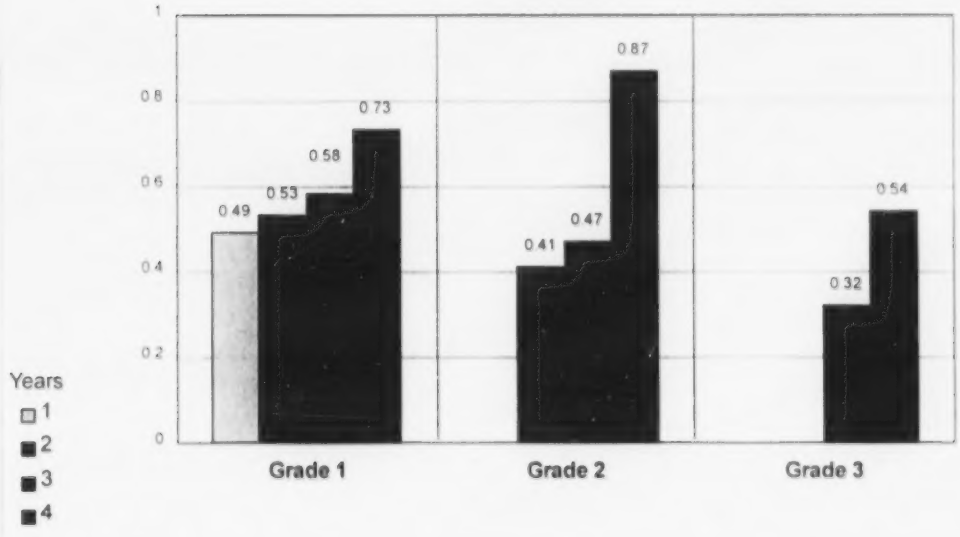
Changes in Effect Sizes Over Years of Implementation

One interesting trend in outcomes from comparisons of Success for All and control schools relates to changes in effect sizes according to the number of years a school has been implementing the program. Figure 10, which summarizes these data, was created by pooling effect sizes for all cohorts in their first year of implementation, all in their second year, and so on, regardless of calendar year.

Figure 10 shows that mean reading effect sizes progressively increase with each year of implementation. For example, Success for All first graders score substantially better than control first graders at the end of the first year of implementation (ES=+0.49). The experimental-control difference is even higher for first graders attending schools in the second year of program implementation (ES=+0.53), increasing to an effect size of +0.73 for schools in their fourth implementation year. A similar pattern is apparent for second and third grade cohorts.

The data summarized in Figure 10 show that while Success for All has an immediate impact on student reading achievement, this impact grows over successive years of implementation. Over time, schools may become increasingly able to provide effective instruction to all of their students, to approach the goal of success for *all*.

Figure 10
Effect Sizes Comparing Success for All and Control Schools According to Implementation Year



Success for All and English Language Learners

The education of English language learners is at a crossroads. On one hand, research on bilingual education continues to show that children who are initially taught in their home language and then transitioned to English ultimately read as well or better in English than children taught only in English (August & Hakuta, 1997; National Academy of Sciences, 1998). Despite these findings, political pressure against bilingual education, most notably in California's Proposition 227, has mounted in recent years, based largely on the fact that Latino children perform less well than Anglo children on achievement tests, whether or not they have been initially taught in Spanish.

While language of instruction is an essential concern for children who are acquiring English, the *quality* of instruction (and corresponding achievement outcomes) is at least as important, whatever the initial language of instruction may be. There is a need for better programs for teaching in the home language and then transitioning to English, and for better programs for teaching English language learners in English with support from English as a second language strategies. Both development and research on Success for All have focused on both of these issues.

Six studies have evaluated adaptations of Success for All with language minority children (see Slavin & Madden, 1999). Three of these evaluated *Éxito Para Todos* ("Success for All" in Spanish), the Spanish bilingual adaptation, and three evaluated a program adaptation incorporating English as a second language strategies.

Bilingual Studies. One study compared students in *Éxito Para Todos* to those in a matched comparison school in which most reading instruction was in English. Both schools served extremely impoverished, primarily Puerto Rican student bodies in inner-city Philadelphia. Not surprisingly, *Éxito Para Todos* students scored far better than control students on Spanish measures. More important was the fact that after transitioning to all-English instruction by third grade, the *Éxito Para Todos* students scored significantly better than controls on measures of English reading. These differences were significant on Word Attack, but not on Word Identification or Passage Comprehension.

An evaluation of *Éxito Para Todos* in California bilingual schools was reported by Livingston and Flaherty (1997), who studied three successive cohorts of students. On Spanish reading measures, *Éxito Para Todos* students scored substantially higher than controls in first grade (ES=+1.03), second grade (ES=+0.44), and third grade (ES=+.23). However, the second and third grade differences almost certainly understate the true effects; the highest-achieving students in the bilingual programs were transitioned early to English-only instruction, and the transition rate was twice as high in the *Éxito Para Todos* classes as in the controls.

A large study in Houston compared limited English proficient (LEP) first graders in 20 schools implementing *Éxito Para Todos* to those in 10 control schools (Nunnery, Slavin, Madden, Ross, Smith, Hunter, & Stubbs, in press). As an experiment, schools were allowed to choose Success for All/*Éxito Para Todos* as it was originally designed, or to implement key components. The analysis compared three levels of implementation: high, medium, and low. None of the *Éxito Para Todos* programs were categorized as "high" in implementation, as a bilingual teacher shortage made it impossible to hire

certified teachers as Spanish tutors, a requirement for the "high implementation" designation. Medium-implementation schools significantly exceeded their controls on all measures (mean ES=+0.24). Low implementers exceeded controls on the Spanish Woodcock Word Identification and Word Attack scales, but not on Passage Comprehension (mean ES=+0.17).

One additional study evaluated Bilingual Cooperative Integrated Reading and Composition (BCIRC), which is closely related to *Alas Para Leer*, the bilingual adaptation of Reading Wings. This study, in El Paso, Texas, found significantly greater reading achievement (compared to controls) for English language learners in grades 3-5 transitioning from Spanish to English reading (Calderón, Hertz-Lazarowitz, & Slavin, 1998).

English as a Second Language (ESL) Studies. Three studies have evaluated the effects of Success for All with English language learners being taught in English. In this adaptation, ESL strategies (such as total physical response) are integrated into instruction for all children, whether or not they are limited in English proficiency. The activities of ESL teachers are closely coordinated with those of other classroom teachers, so that ESL instruction directly supports the Success for All curriculum, and ESL teachers often serve as tutors for LEP children.

The first study of Success for All with English language learners took place in Philadelphia. Students in an Asian (mostly Cambodian) Success for All school were compared to those in a matched school that also served many Cambodian-speaking children. Both schools were extremely impoverished, with nearly all children qualifying for free lunches.

At the end of a six-year longitudinal study, Success for All Asian fourth and fifth graders were performing far ahead of matched controls. On average, they were 2.9 years ahead of controls in fourth grade (median ES=+1.49), and 2.8 years ahead in fifth grade (median ES= +1.33). Success for All Asian students were reading about a full year above grade level in both fourth and fifth grades, while controls were almost two years below grade level. Non-Asian students also significantly exceeded their controls at all grade levels (see Slavin & Madden, 1999).

The California study described earlier (Livingston & Flaherty, 1997) also included many English language learners who were taught in English. Combining results across three cohorts, Spanish-dominant English language learners performed far better on English reading measures in Success for All than in matched control schools in first grade (ES=+1.36) and second grade (ES=+0.46), but not in third grade (ES=+0.09). As in the bilingual evaluation, the problem with the third grade scores is that many high-achieving children were transitioned out of the ESL designation in the Success for All schools, reducing apparent experimental-control differences. Corresponding effect sizes for students who spoke languages other than English or Spanish were +0.40 for first graders, +0.37 for second graders, and +0.05 for third graders.

An Arizona study (Ross, Nunnery, & Smith, 1996) compared Mexican American English language learners in two urban Success for All schools to those in three schools using locally-developed Title I reform models and one using Reading Recovery. Two SES school strata were compared, one set with 81% of students in poverty and 50% Hispanic students and one with 53% of students in poverty and

27% Hispanic students. Success for All first graders scored higher than controls in both strata. Hispanic students in the high-poverty stratum averaged three months ahead of the controls (1.75 vs. 1.45). Hispanic students in the less impoverished stratum scored slightly above grade level (1.93), about one month ahead of controls (1.83).

The effects of Success for All for language-minority students are not statistically significant on every measure in every study, but the overall impact of the program is clearly positive, both for the Spanish bilingual adaptation, *Éxito Para Todos,* and for the ESL adaptation. What these findings suggest is that whatever the language of instruction may be, student achievement in that language can be substantially enhanced using improved materials, professional development, and other supports.

Comparing Success for All and Reading Recovery

Reading Recovery is one of the most extensively researched and widely used innovations in elementary education. Like Success for All, Reading Recovery provides one-to-one tutoring to first graders who are struggling in reading. Research on Reading Recovery has found substantial positive effects of the program as of the end of first grade, and longitudinal studies have found that some portion of these effects maintain at least through fourth grade (DeFord, Pinnell, Lyons & Young, 1987; Pinnell, Lyons, DeFord, Bryk, & Seltzer, 1994; Lyons, Pinnell, & DeFord, 1993).

Schools and districts attracted to Success for All are also often attracted to Reading Recovery, as the two programs share an emphasis on early intervention and a strong research base. Increasing numbers of districts have both programs in operation in different schools. One of the districts in the Success for All evaluation, Caldwell, Idaho, happened to be one of these. Ross, Smith, Casey, and Slavin (1995) used this opportunity to compare the two programs.

In the Caldwell study, two schools used Success for All and one used Reading Recovery. All three are very similar rural schools with similar ethnic make-ups (10-25% Hispanic, with the remainder Anglo), proportions of students qualifying for free lunch (45-60%), and sizes (411-451). The Success for All schools were somewhat higher than the Reading Recovery school in poverty and percent Hispanic. In 1992-93, one of the Success for All schools was in its second year of implementation and the other was a new school that was in its first year (but had moved a principal and reassigned some experienced staff from the first school). Reading Recovery was in its second year of implementation.

The study compared first graders in the three schools. Students in the Success for All schools performed somewhat better than students in the Reading Recovery school overall (ES=+.17). Differences for special education students were substantial, averaging an effect size of +.77. Special education students were not tutored in the Reading Recovery school and were primarily taught in a separate resource room. These students scored near the floor on all tests. In contrast, Success for All special education students were fully mainstreamed and did receive tutoring, and their reading scores, though still low, showed them to be on the way toward success in reading.

Excluding the special education students, there were no differences in reading performance between tutored students in the Success for All and Reading Recovery schools (ES=.00). In light of earlier research, these outcomes suggest that both tutoring programs are effective for at-risk first graders.

A second study, by Ross, Nunnery, and Smith (1996), also compared Success for All and Reading Recovery. This study, in an urban Arizona school district, compared first graders in three matched schools, in which 53% of students qualified for free lunch, 27% were Hispanic, and 73% were Anglo. One of the schools used SFA, one used Reading Recovery, and one used a locally-developed Title I schoolwide project.

Results for the overall sample of first graders strongly favored Success for All. Averaging across four individually-administered measures, Success for All students scored well above grade level (GE=2.2). Those in the Reading Recovery school averaged near grade level (GE=1.7), slightly below the control school (GE=1.8). Effect sizes (adjusted for pretests) comparing the SFA and Reading Recovery schools averaged +0.68, and effect sizes compared to the locally developed schoolwide project averaged +0.39.

Focusing on the children who actually received one-to-one tutoring, the differences were dramatic. On Peabody Picture Vocabulary Tests given at pretest, the students tutored in the Reading Recovery school scored 41% of a standard deviation higher than students tutored in the Success for All school. Yet at the end of the year, the Reading Recovery students were essentially nonreaders, with an average grade equivalent of 1.2. In contrast, the students tutored in Success for All scored at grade level (GE=1.85). The mean effect size for this comparison, ES=2.79, is inflated by a huge difference in Word Attack, but even excluding this scale the effect size mean is +1.65.

The difference between the Idaho and the Arizona findings is probably due in part to the nature of the broader school programs, not just to differences in the tutoring models. The Arizona Reading Recovery school had a program strongly influenced by whole language, and the tutored children performed very poorly on Word Attack measures. In contrast, the Idaho Reading Recovery school used a more balanced approach, so that these children were receiving some phonics instruction in their regular classes.

Reading Recovery can be a powerful means of increasing the reading success of students having reading difficulties, but it needs to be implemented well and supplemented with high-quality instruction that includes a strong phonetic component if it is to produce significant reading gains. Because Success for All attends to classroom instruction as well as tutoring, it is able to ensure that the effects of one-to-one tutoring build upon high-quality, well-balanced reading instruction, rather than expecting the tutors to teach children to read with little support from classroom instruction.

Comparisons With Other Programs

A few studies have compared outcomes of Success for All to those of other comprehensive reform designs.

As noted earlier, a study of six restructuring designs in Memphis on the Tennessee Value Added Assessment System (TVAAS) found that Success for All schools had the highest absolute scores and gain scores on the TVAAS, averaging across all subjects (Ross et al., 1999). As noted earlier, the TVAAS is a measure that relates performance on the Tennessee Comprehensive Achievement Test to "expected" performance. The designs, in addition to Success for All, were Co-nect, Accelerated Schools, Audrey Cohen College, ATLAS, and Expeditionary Learning.

A study in Clover Park, Washington compared Success for All to Accelerated Schools (Hopfenberg & Levin, 1993), an approach that, like Success for All, emphasizes prevention and acceleration over remediation, but unlike Success for All does not provide specific materials or instructional strategies to achieve its goals. In the first year of the evaluation, the Success for All and Accelerated Schools programs had similar scores on individually administered reading tests and on a writing test (Ross, Alberg, & McNelis, 1997). By second grade, however, Success for All schools were scoring slightly ahead of Accelerated Schools in reading, and significantly ahead in writing (Ross, Alberg, McNelis, & Smith, 1998).

Success for All and Special Education

Perhaps the most important goal of Success for All is to place a floor under the reading achievement of all children, to ensure that every child performs adequately in this critical skill. This goal has major implications for special education. If the program makes a substantial difference in the reading achievement of the lowest achievers, then it should reduce special education referrals and placements. Further, students who have Individual Education Plans (IEPs) indicating learning disabilities or related problems are typically treated the same as other students in Success for All. That is, they receive tutoring if they need it, participate in reading classes appropriate to their reading levels, and spend the rest of the day in age-appropriate, heterogeneous homerooms. Their tutor and/or reading teacher is likely to be a special education teacher, but otherwise they are not treated differently. One-to-one tutoring in reading, plus high-quality reading instruction in the mainstream at the student's appropriate level, should be more effective than the small-group instruction provided in special education classes. For this reason we expect that students who have been identified as being in need of special education services will perform substantially better than similar students in traditional special education programs.

The philosophy behind the treatment of special education issues in Success for All is called "neverstreaming" (Slavin, 1996). That is, rather than waiting until students fall far behind, are assigned to special education, and then may be mainstreamed into regular classes, Success for All schools intervene early and intensively with students who are at risk to try to keep them out of the special education system. Once students are far behind, special education services are unlikely to catch them

up to age-appropriate levels of performance. Students who have already failed in reading are likely to have an overlay of anxiety, poor motivation, poor behavior, low self-esteem, and ineffective learning strategies that are likely to interfere with learning no matter how good special education services may be. Ensuring that all students succeed in the first place is a far better strategy, if it can be accomplished. In Success for All, the provision of research-based preschool, kindergarten, and first grade reading, one-to-one tutoring, and family support services are likely to give the most at-risk students a good chance of developing enough reading skills to remain out of special education, or to perform better in special education than would have otherwise been the case.

The data relating to special education outcomes clearly support these expectations. Several studies have focused on questions related to special education. One of the most important outcomes in this area is the consistent finding of particularly large effects of Success for All for students in the lowest 25% of their classes. While effect sizes for students in general have averaged around +0.50 on individually administered reading measures, effect sizes for the lowest achievers have averaged in the range of +1.00 to +1.50 across the grades. In the longitudinal Baltimore study, only 2.2% of third graders averaged two years behind grade level, a usual criterion for special education placement. In contrast, 8.8% of control third graders scored this poorly. Baltimore data also showed a reduction in special education placements for learning disabilities of about half (Slavin et al., 1992). A study of two Success for All schools in Ft. Wayne, Indiana found that over a two-year period, 3.2% of Success for All students in grades K-1 and 1-2 were referred to special education for learning disabilities or mild mental handicaps. In contrast, 14.3% of control students were referred in these categories (Smith, Ross, & Casey, 1994).

Taken together, these findings support the conclusion that Success for All both reduces the need for special education services (by raising the reading achievement of very low achievers) and reduces special education referrals and placements.

Another important question concerns the effects of the program on students who have already been assigned to special education. Here again, there is evidence from different sources. In the study comparing Reading Recovery and Success for All described above, it so happened that first graders in special education in the Reading Recovery group were not tutored, but instead received traditional special education services in resource rooms. In the Success for All schools, first graders who had been assigned to special education were tutored one-to-one (by their special education teachers) and otherwise participated in the program in the same way as all other students. As noted earlier, special education students in Success for All were reading substantially better (ES=+.77) than special education students in the comparison school (Ross et al., 1995). In addition, Smith et al. (1994) combined first grade reading data from special education students in Success for All and control schools in four districts: Memphis, Tennessee; Ft. Wayne, Indiana; Montgomery, Alabama; and Caldwell, Idaho. Success for All special education students scored substantially better than controls (mean ES=+.59).

Teachers' Attitudes Toward Success for All

Two studies have examined teachers' attitudes toward Success for All using questionnaires. Ross, Smith, Nunnery, and Sterbin (1995) surveyed teachers involved in six restructuring designs, including Success for All, and found that Success for All schools had the most positive attitudes toward the success of the implementation. However, all designs were rated relatively positively, and there was more variation among schools implementing the same designs than between models.

Rakow and Ross (1997) studied teacher attitudes in five Success for All schools in Little Rock, Arkansas. Once again, responses varied widely from school to school, but overall effects were very positive. For example, 70% of teachers agreed that SFA was having a positive effect in their schools, and 78% felt "positively about using the SFA model."

Perhaps the best indicator of teacher support for Success for All is not from a study, but from a vote. In Spring 1999, the San Antonio Independent School District, responding to a severe budget shortfall and a change of superintendents, required teachers in all schools using restructuring designs to vote on whether to keep these designs or to return to the district's program. A vote of 80% in favor was required to keep the program. Across twenty-four Success for All schools, the average vote in favor was 81% positive. In contrast, votes for Accelerated Schools (two schools) averaged 59% positive, Co-nect (eleven schools) 32% positive, Expeditionary Learning (nine schools) 43% positive, and Modern Red Schoolhouse (fifteen schools) 33% positive.

Conclusion

The results of evaluations of dozens of Success for All schools in districts in all parts of the United States clearly show that the program increases student reading performance. In almost every district, Success for All students learned significantly more than matched control students. Significant effects were not seen on every measure at every grade level, but the consistent direction and magnitude of the effects show unequivocal benefits for Success for All students. Effects on district-administered standardized tests reinforce the findings of the studies using individually administered tests. This report also adds evidence showing particularly large impacts on the achievement of limited English proficient students in both bilingual and ESL programs, and on both reducing special education referrals and improving the achievement of students who have been assigned to special education. It summarizes evaluations in five foreign countries. It compares the outcomes of Success for All with those of another early intervention program, Reading Recovery, and those of other whole-school reforms. It also summarizes outcomes of Roots & Wings, the next stage in the development of Success for All.

The Success for All evaluations have used reliable and valid measures, in particular individually-administered tests that are sensitive to all aspects of reading: comprehension, fluency, word attack, and word identification. Positive effects on state accountability assessments and on other standardized

measures have also been documented many times. Performance of Success for All students has been compared to that of matched students in matched control schools, who provide the best indication of what students without the program would have achieved. Replication of high-quality experiments in such a wide variety of schools and districts is extremely unusual. A review of research by the American Institutes of Research (Herman, 1999) found Success for All to be one of only two comprehensive elementary reform models to have rigorous, frequently replicated evidence of effectiveness.

An important indicator of the robustness of Success for All is the fact that of the more than 1100 schools that have used the program for periods of one to nine years, only about three dozen have dropped out. This usually takes place as a result of a change of principals, major funding cutbacks, or other substantial changes. Hundreds of other Success for All schools have survived changes of superintendents, principals, facilitators, and other key staff, major cuts in funding, and other serious threats to program maintenance (see Slavin & Madden, 1998).

The research summarized here demonstrates that comprehensive, systemic school-by-school change can take place on a broad scale in a way that maintains the integrity and effectiveness of the model. The schools we have studied are typical of the larger set of schools currently using Success for All and Roots & Wings in terms of quality of implementation, resources, demographic characteristics, and other factors. Program outcomes are not limited to the original home of the program. The widely-held idea based on the Rand study of innovation (Berman & McLaughlin, 1978; McLaughlin, 1990) that comprehensive school reform must be invented by school staffs themselves is certainly not supported in research on Success for All or Roots & Wings. While the program is adapted to meet the needs of each school, and while school staffs must agree to implement the program by a vote of 80% or more, Success for All and Roots & Wings are externally-developed programs with specific materials, manuals, and structures. The observation that these programs can be implemented and maintained over considerable time periods and can be effective in each of their replication sites certainly supports the idea that every school staff need not reinvent the wheel.

The demonstration that an effective program can be replicated and can be effective in its replication sites removes one more excuse for the continuing low achievement of disadvantaged children. In order to ensure the success of disadvantaged students we must have the political commitment to do so, with the funds and policies to back up this commitment. Success for All and Roots & Wings do require a serious commitment to restructure elementary schools and to reconfigure uses of Title I, special education, and other funds to emphasize prevention and early intervention rather than remediation. These and other systemic changes in assessments, accountability, standards, and legislation can facilitate the implementation of Success for All, Roots & Wings, and other school reform programs. However, we must also have methods known to be effective. The evaluations presented in this report provide a practical demonstration of the effectiveness and replicability of one such program.

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